

Claims

- (1) A forklift truck (1) for mounting on the rear of a carrying vehicle, the forklift truck comprising a u-shaped chassis (3) having a crossbar (5) and pair of side bars (7, 9) mounted at the ends of the crossbar and projecting forwardly therefrom, a wheel (11) located adjacent the front of each of the sidebars, a steerable rear wheel located centrally on the crossbar, a driver's station (13) positioned to one side of the chassis and a motive power unit (15) positioned on the opposite side of the chassis, the chassis mounting a lifting member carrying forks (19), the lifting member being connected to the forks by way of a side shift mechanism (21) comprising a fixed carriage (23) and a movable carriage (25) slidably mounted on the fixed carriage and means to shift the movable carriage relative the fixed carriage from a central position to positions laterally extending therefrom on either side of the fixed carriage, characterised in that:-

the means to shift the movable carriage (25) laterally relative the fixed carriage (23) further comprises a pair of fluid actuated rams (27, 29) each having a cylinder (31), a piston (33) and an elongate piston rod (35) connected at one end to the piston, the cylinders (31) of the pair of fluid actuated rams (27, 29) being connected together side by side, the free end of one of the piston rods (35) being connected to the fixed carriage (23) and the free end of the other piston rod (35) being connected to the movable carriage (25).

- (2) A forklift truck (1) as claimed in claim 1 in which the forks (19) are mounted on a framework (45), the framework being mounted for pivotal movement about a horizontal axis (47) parallel to the horizontal longitudinal axis of the forklift truck (1), the forks being movable under the operation of a rotating ram (49).
- (3) A forklift truck (1) as claimed in claim 1 or 2 in which each fluid actuated ram (27, 29) is a single acting ram and there is further provided a return biasing means urging each of the single acting rams to a fully contracted configuration.

- (4) A forklift truck (1) as claimed in claim 1 or 2 in which each fluid actuated ram (27, 29) is a double acting ram.
- (5) A forklift truck (1) as claimed in any preceding claim in which each fluid actuated ram (27, 29) is a hydraulic ram.
- (6) A forklift truck (1) as claimed in any of claims 1 to 4 in which each fluid actuated ram (27, 29) is a pneumatic ram.
- (7) A forklift truck (1) as claimed in any preceding claim in which there is provided means to operate the fluid actuated rams (27, 29) in synchronization with each other.
- (8) A forklift truck (1) as claimed in any of claims 1 to 6 in which there is provided means to operate the fluid actuated rams (27, 29) independently of each other.
- (9) A forklift truck (1) as claimed in any preceding claim in which there are provided friction reducing members positioned intermediate the movable carriage (25) and the fixed carriage (23).
- (10) A forklift truck (1) as claimed in claim 9 in which the friction reducing members are any one of a brass pad, a nylon pad or roller bearings.
- (11) A forklift truck (1) as claimed in any preceding claim in which there is provided an energy chain (57, 59) connected to a fluid line feed for each of the fluid actuated rams (27, 29).
- (12) A forklift truck (1) as claimed in any preceding claim in which when the movable carriage (25) is in a central position, one of the fluid actuated rams (27, 29) is in a fully extended configuration while the other of the fluid actuated rams (27, 29) is in a fully retracted configuration.

- (13) A forklift truck (1) as claimed in any of claims 1 to 11 in which when the movable carriage (25) is in a central position, both of the fluid actuated rams (27, 29) are in a half extended configuration with the pistons at half stroke in the cylinders.